

### **REMARKS**

Claims 1, 2, 4, 5, 7-15, and 17-18 are pending in this application. Claims 1, 14, and 17 have been amended in this response. Claims 3 and 6 have been previously canceled, and claim 16 has been canceled in this response.

#### **Claims Rejections – 35 USC § 112**

Claims 1, 2, 4, 5 and 7-18 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Office Action states that the “non-adjustable” limitation in these claims “cannot be found in the original specification.” Applicants respectfully submit that the original specification does support this limitation. For example, at least page 6, lines 25-28 and page 9, lines 26-27 refer to avoiding the need for calibration with each mounting.

In order to expedite prosecution, and while preserving the right to pursue claims with a “non-adjustable” feature in future prosecution, Applicants have amended each of independent claims 1, 14, and 17 to remove the “non-adjustable” language. Applicants have amended claims 1 and 14 to include the feature of “after initial placement on the bracket, the printhead can be removed and replaced without requiring further calibration.” Support for this amendment is found throughout the original application, including the sections cited in the preceding paragraph. As such, Applicants submit that this ground for reject has been overcome.

#### **Claims Rejections – 35 USC § 103**

Claims 1, 2, 4, 5 and 7-18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent No. 6,101,946 to Martinsky in view of US Patent No. 4,080,607 to Van Breeman et al. and US Patent No. 5,615,958 to Furrow et al. Applicants respectfully request reconsideration.

As an initial matter, there is no question that the Martinsky patent does not disclose the bracket or semi-kinematic mounting system as claimed in each of independent claims 1, 14, and 17. As the Office Action states at page 3, Martinsky has “no teaching of the bracket and semi-kinematic mounting system as claimed.” Recognizing that more is needed, the Office Action cites the Van Breeman patent as disclosing such a feature. However, as the Office Action

correctly states, neither Martinsky nor Van Breeman teach the use of dowel pins that rest to mate with ball mounts, as recited by each of the independent claims as amended.

Recognizing that still more than the combination of Martinsky and Van Breeman is necessary, the Office Action cites a third reference – the Furrow patent – as disclosing the feature of dowel pins and ball mounts. Even if such a combination would be proper, which it is not, the Furrow patent does not teach the use of two dowel pins to mate with each of the three ball mounts. In addition, the Furrow patent does not teach a mount that is “semi-kinematic” or that “constrain[s] the printhead with respect to the bracket in six degrees of freedom,” as required by each of the independent claims as amended.

As the original application states and shows in Figures 1-3, each of the three ball mounts rests on two dowel pins when the printhead and bracket are brought together. For instance, pins 26 rest on ball mount 16, pins 28 rest on ball mount 18, and pins 30 rest on ball mount 20. Thus, when combined, these ball mounts / dowel pins positively locate the printhead with respect to the bracket in each of the six degrees of freedom ( $X$ ,  $Y$ ,  $Z$ ,  $\theta_x$ ,  $\theta_y$ ,  $\theta_z$ ) with repeatability. That is, the ball mounts and dowel pins constrain movement of the printhead with respect to the bracket in each of the six degrees of freedom, without overconstraining the mounting system. This allows the printhead and bracket to be removed and then replaced without requiring further calibration.

The Furrow patent discloses no such use of dowel pins and ball mounts to form a semi-kinematic mount that constrains the printhead with respect to the bracket in each of six degrees of freedom. More importantly, the “mount” of Furrow does not constrain a bracket with respect to a printhead (or, for that matter, any piece with respect to another piece) in each of six degrees of freedom, as recited by each of Applicants’ independent claims. The single pin 136 terminating in a ball 138 of Furrow does not create a semi-kinematic mounting system. In fact, the very purpose of the “mount” of Furrow is to allow a cartridge to rotate. *See* Col. 6, lines 54-58 (“... enabling cartridge C to pivot or oscillate about the axis A-A under control of the oscillator mechanism previously described.”) Figures 11A, 11B, and 11C of Furrow make this clear. Figure 11A shows the cartridge C slanted upward toward its right end, Figure 11B shows the cartridge C in an unrotated position, and Figure 11C shows cartridge C slanted downward at its right end. In addition, the Furrow patent does not disclose “two” “dowel pins” used to contact each ball mount, as recited by each of the independent claims.

In response to Applicants' previous response, the current Office Action at page 5 states that the heads 132, 134 of Furrow "serve the same purpose in mating with the ball mounts." The Office Action at page 5 also concludes that "the ball mounts of Furrow et al. are considered to be semi-kinematic." Applicants do not agree with these conclusions. Applicants do not contend that the heads 132, 134 of Furrow do not mate with the ball 138, but this does not mean that the heads 132, 134 and ball 138 serve the same purpose as the ball mounts and dowel pins of the claimed invention. The "mount" of Furrow is designed to allow the cartridge C to rotate, thus teaching away from Applicants' claimed invention. Applicants' claims recite constraint in six degrees of freedom. The teaching in the Furrow patent of rotation specifically and unequivocally teaches the opposite (i.e., allowing for rotation), and thus cannot teach the use of the dowel pins and mounts as in the claimed invention. Applicants' claimed invention includes two dowel pins mating with each of three ball mounts for the purpose of constraining the bracket with respect to the printhead in six degrees of freedom.

Applicants incorporate by reference the comments in the previous responses to Office Actions in this application, which distinguish the cited prior art combination for additional reasons than those set forth above.

As set forth above, the cited prior art, either alone or in combination, does not disclose all of the features of Applicants' independent claims 1, 14, and 17. In addition, the cited combination teaches away from the claimed combination. Therefore, Applicants submit that these independent claims, and the claims that depend from those claims, are in condition of allowance. Applicants' failure to address the Examiner's rejections of the dependent claims should not be construed as an acquiescence to such rejections, but a recognition that such rejections are moot based on the dependency from an allowable independent claim.

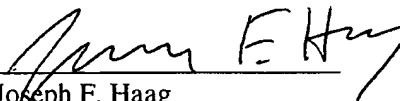
**CONCLUSION**

The Commissioner is hereby authorized to debit Deposit Account No. 08-0219 the two-month extension of time fee of \$450.00. No other fees are believed due with this submission, however, please charge any underpayments, or credit any overpayments to Deposit Account No. 08-0219.

In view of the above amendment, Applicants believes the pending application is in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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